16. (New) A method of determining a tire pressure in a vehicle tire comprising the steps of:

ascertaining a first fluid pressure in a conduit disposed between a fluid source and said tire using a sensor disposed in said conduit;

comparing said first fluid pressure to a target pressure;

providing a pulse of compressed fluid to said conduit when said first fluid pressure is less than said target pressure, said pulse having a duration determined responsive to a duration of a previous pulse of compressed fluid provided to said conduit and a change in pressure in said conduit resulting from said previous pulse; and,

repeating said ascertaining, comparing, and providing steps until said first fluid pressure in said conduit reaches said target pressure.

17. (New) The method of claim 16 wherein said first fluid pressure is ascertained following a predetermined hold time that begins after said previous pulse is provided to said conduit.

18. (New) The method of claim 16 wherein said duration of said previous pulse is a preset period.

19. (New) The method of claim 16 wherein said duration of said pulse is determined in accordance with the following formula:

$$D_1 = n * D_0 * [(P_T - temp_1)/(temp_1 - P_L)]$$

wherein n is a predetermined value, D_0 is said duration of said previous pulse, P_T is said target pressure, temp1 is said first fluid pressure and P_L is a previous fluid pressure in said conduit resulting from said previous pulse.

5 20. (New)   The method of claim 16, further comprising the steps of:

determining a second fluid pressure in said conduit following a predetermined line leak hold time; and,

comparing said first and second fluid pressures.

6 21. (New)   The method of claim 20 wherein said tire pressure equals said first fluid pressure if a difference between said first and second fluid pressures is less than a predetermined amount.

7 22. (New)   The method of claim 20 further comprising the step of logging a line leak fault if a difference between said first and second fluid pressures is greater than a predetermined amount.

8 23. (New)   A method of determining a tire pressure in a vehicle tire comprising the steps of:

ascertaining a first fluid pressure in a conduit disposed between a fluid source and said tire using a sensor disposed in said conduit;

comparing said first fluid pressure to a target pressure;

incrementing a counter when said first fluid pressure is less than said target pressure;

comparing said counter to a predetermined value;

providing a pulse of compressed fluid to said conduit when said first fluid pressure is less than said target pressure and said counter is less than said predetermined value, said pulse having a duration determined responsive to a duration of a previous pulse of compressed fluid provided to said conduit and a change in pressure in said conduit resulting from said previous pulse; and,

repeating said ascertaining, comparing, and providing steps until said first fluid pressure in said conduit reaches said target pressure or said counter reaches said predetermined value.

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24. (New) The method of claim 23 wherein said first fluid pressure is ascertained following a predetermined hold time that begins after said previous pulse is provided to said conduit.

25. (New) The method of claim 23 wherein said duration of said previous pulse is a preset period.

26. (New) The method of claim 23 wherein said duration of said pulse is determined in accordance with the following formula:

$$D_1 = n * D_0 * [(P_T - temp_1)/(temp_1 - P_L)]$$

wherein n is a predetermined value, D_0 is said duration of said previous pulse, P_T is said target pressure, temp1 is said first fluid pressure and P_L is a previous fluid pressure in said conduit resulting from said previous pulse.

27. (New) The method of claim 23, further comprising the steps of:

determining a second fluid pressure in said conduit following a predetermined line leak hold time; and,

comparing said first and second fluid pressures.

28. (New) The method of claim 27 wherein said tire pressure equals said first fluid pressure if a difference between said first and second fluid pressures is less than a predetermined amount.

29. (New) The method of claim 27 further comprising the step of logging a line leak fault if a difference between said first and second fluid pressures is greater than a predetermined amount.

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